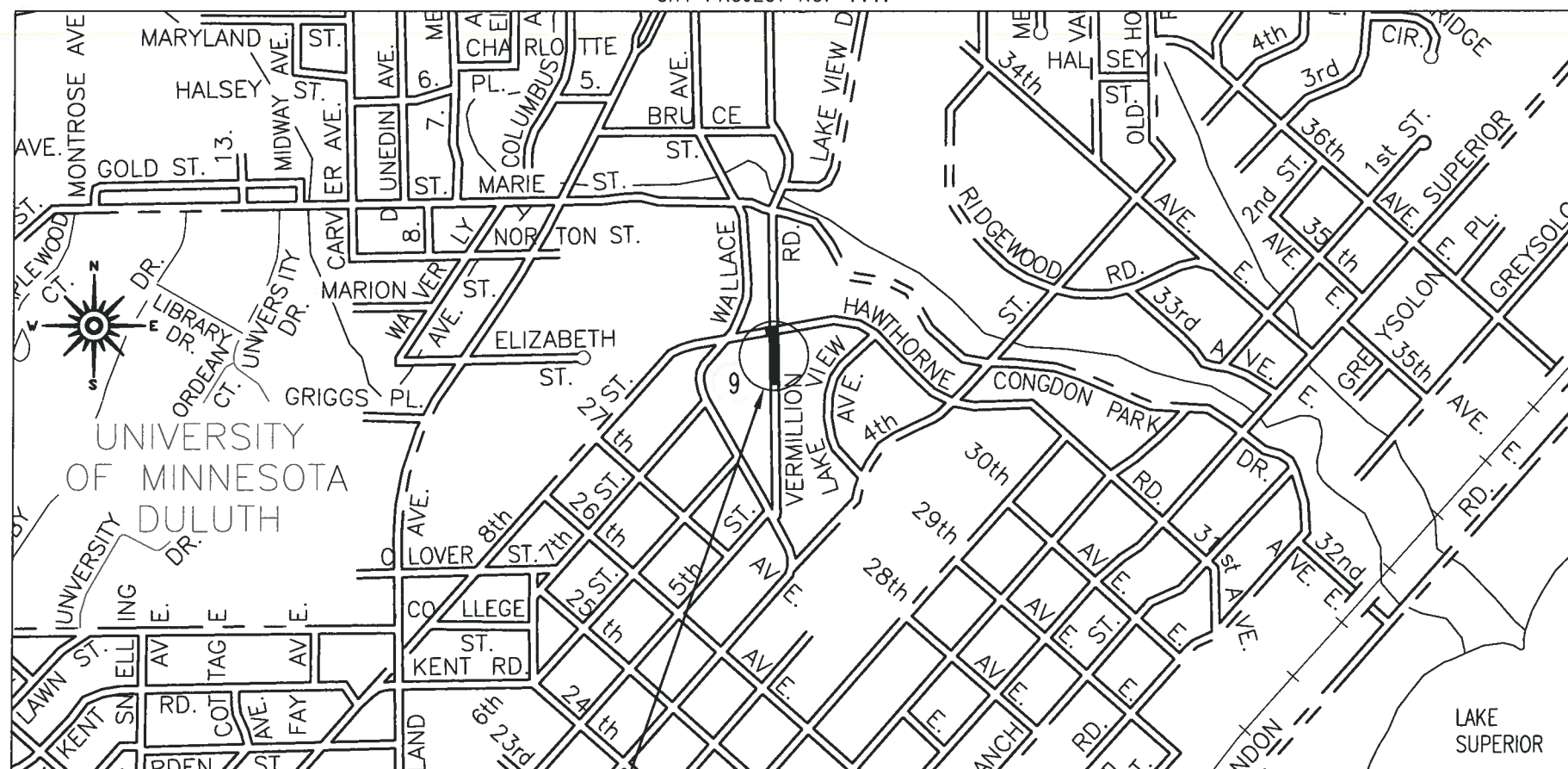


RIGHT OF WAY LINE		
DITCH CENTERLINE		
FENCE LINE		
RETAINING WALL		
GRAVEL LINE		
GUARD RAIL LINE		
RAILROAD TRACK LINE		
ROAD CENTERLINE		
TREE LINE		
STREAM LINE		
WETLAND LINE		
EX SANITARY LINE		SAN
PR SANITARY LINE		AB-SAN
AB SANITARY LINE		
EX FORCEMAIN LINE		FM
PR FORCEMAIN LINE		FM
AB FORCEMAIN LINE		AB-FM
EX STORM LINE		
PR STORM LINE		ST
AB STORM LINE		AB-ST
EX WATER LINE		W
PR WATER LINE		W
AB WATER LINE		AB-W
EX GAS LINE		GAS
PR GAS LINE		GAS
AB GAS LINE		AB-GAS
EX STEAM LINE		
PR STEAM LINE		AB-STEAM
UG CABLE TV LINE		UGTV
AB CABLE TV LINE		AB-CATV
UG ELECTRIC LINE		UGE
AB ELECTRIC LINE		AB-ELEE
UG FIBEROPTIC LINE		FO
AB FIBEROPTIC LINE		AB-FO
UG TELEPHONE LINE		UGT
AB TELEPHONE LINE		AB-TELE
OH ELECTRIC LINE		OHE
OH TELEPHONE LINE		OHT
OH CABLE TV LINE		OHTV

EX. SANITARY MANHOLE	(SAN)	
EX. SANITARY CLEANOUT		⊗
EX. STORM MANHOLE	(STRM)	
EX. STORM CATCHBASIN		▨
EX. WATER MANHOLE	(W)	WV
EX. WATER VALVE	☼	⊗
EX. WATER HYDRANT	☼	⊗
EX. WATER SHUTOFF		⊗
EX. WATER & GAS MH	(W&G)	
EX. GAS MANHOLE		(GAS)
EX. GAS VALVE	⊗	
EX. GAS SHUTOFF		⊗
EX. STEAM MANHOLE	(STEAM)	
EX. TELEPHONE MANHOLE		(T)
EX. ELECTRIC MANHOLE	(E)	
EX. POWERPOLE		⊗
EX. LIGHT POLE	☼	
EX. ELECTRIC VAULT		⊗
EX. ANCHOR	↓	
EX. ELECTRIC TRANSFORMER	⊗	⊗
EX. STREET LIGHT	☼	
EX. SIGNAL W/ STREET LIGHT	☼	☼
EX. HANDHOLE	(H.H.)	
EX. HANDHOLE		(H.H.)
EX. TELEPHONE PEDESTAL	□	
EX. WELL	⊗	
BENCHMARK	⊗	
FOUND CI MONUMENT	⊗	
EX. SIGN	⊗	
CONTROL POINT	⊗	
EX. DECIDUOUS TREE	☼	
EX. CONIFEROUS TREE	☼	
EX. PARKING METER	⊗	
EX. SOIL BORING	⊗	

CONSTRUCTION PLANS FOR:
VERMILION RD. FLOOD RECONSTRUCTION

CITY PROJECT NO. 1117



PROJECT LOCATION

PROJECT LOCATION
ST. LOUIS COUNTY
CITY OF DULUTH
SEC 13 & 14
T50W, R14W

THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY LEVEL D. THIS QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF CI/ASCE 38-02, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA".

WARNING:
LOCATION OF UNDERGROUND UTILITIES TO BE VERIFIED BY
CONTRACTOR. CALL BEFORE DIGGING. GOPHER STATE ONE
CALL 1-800-252-1166 REQUIRED BY LAW

THE 2005 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION
"STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN.
AVAILABLE AT: <http://www.dot.state.mn.us/pre-letting/spec/index.html>

THE 2360 PLANT MIXED ASPHALT PAVEMENT SPECIFICATION DATED 02/04/2011
SHALL APPLY.
AVAILABLE AT: <http://www.dot.state.mn.us/materials/bituminous.html>

ALL TRAFFIC CONTROL DEVICES AND SIGNING SHALL CONFORM TO THE MN MUTCD,
INCLUDING THE FIELD MANUAL DATED FEBRUARY 2011.
AVAILABLE AT: <http://www.dot.state.mn.us/trafficeng/publ/fieldmanual2011/>


THE 2011 WITH 2012 AMENDMENTS EDITION OF THE CITY OF DULUTH PUBLIC WORKS
AND UTILITIES DEPARTMENT STANDARD CONSTRUCTION SPECIFICATIONS AND
SUPPLEMENTS OR ADDENDUMS SHALL APPLY.
AVAILABLE AT: http://www.duluthmn.gov/engineering/spec_book/

<u>SHEET NO.</u>	<u>DESCRIPTION</u>
1	TITLE
2	SEQ AND NOTES
3	TYPICAL SECTION
4	PLAN AND PROFILE

THIS PLAN CONTAINS 4 SHEETS

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY
DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL
ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

HOWARD D. SMITH, P.E.
PROJECT ENGINEER (TYPED OR PRINTED NAME)

 P.E. 8-31-12 46875
 PROJECT ENGINEER DATE REG. NO.

CITY APPROVAL

APPROVED *Chadwick* 8/31/12
CHIEF ENGINEER OF TRANSPORTATION DAT

APPROVED *Chadwick* 8/31/12
CHIEF ENGINEER OF UTILITIES DAT

APPROVED *Chadwick* 8/31/12
CITY ENGINEER DAT

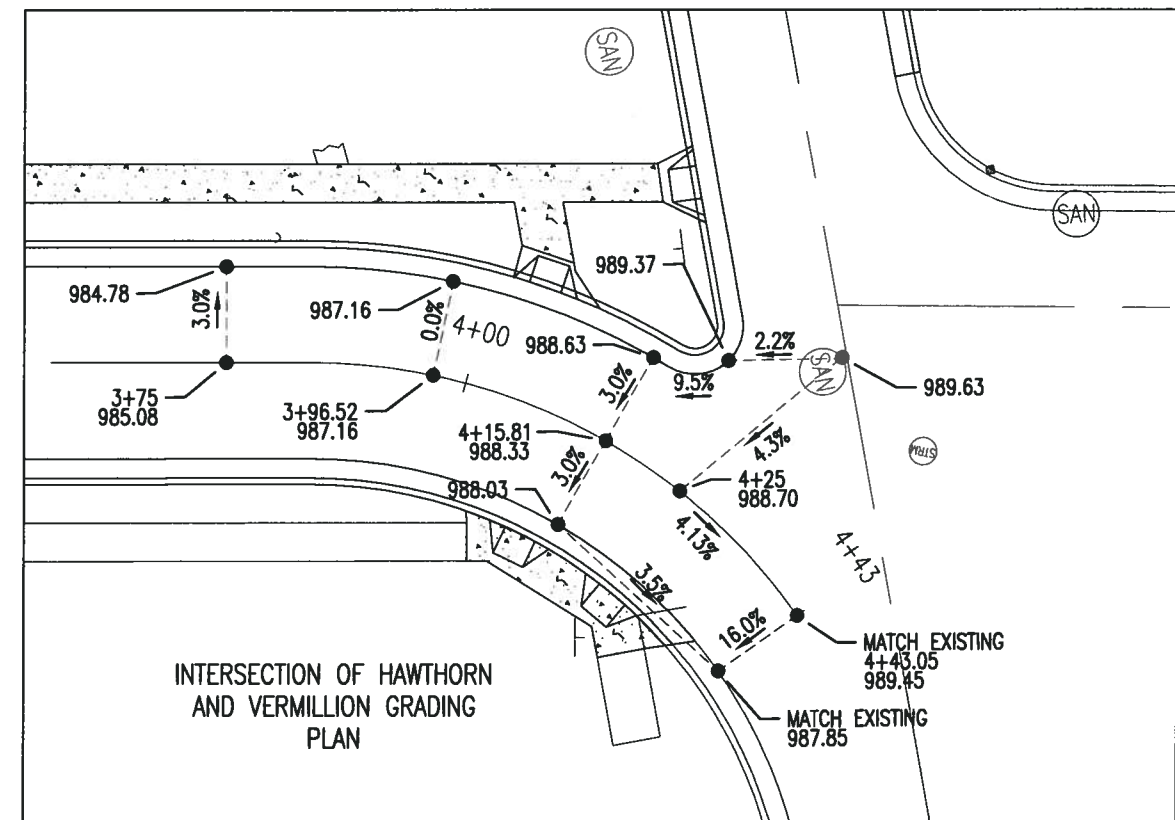
CITY OF DULUTH PROJECT NO. 1117

DRAWN BY: KLB/SCA SHEET NO. 1 OF 4

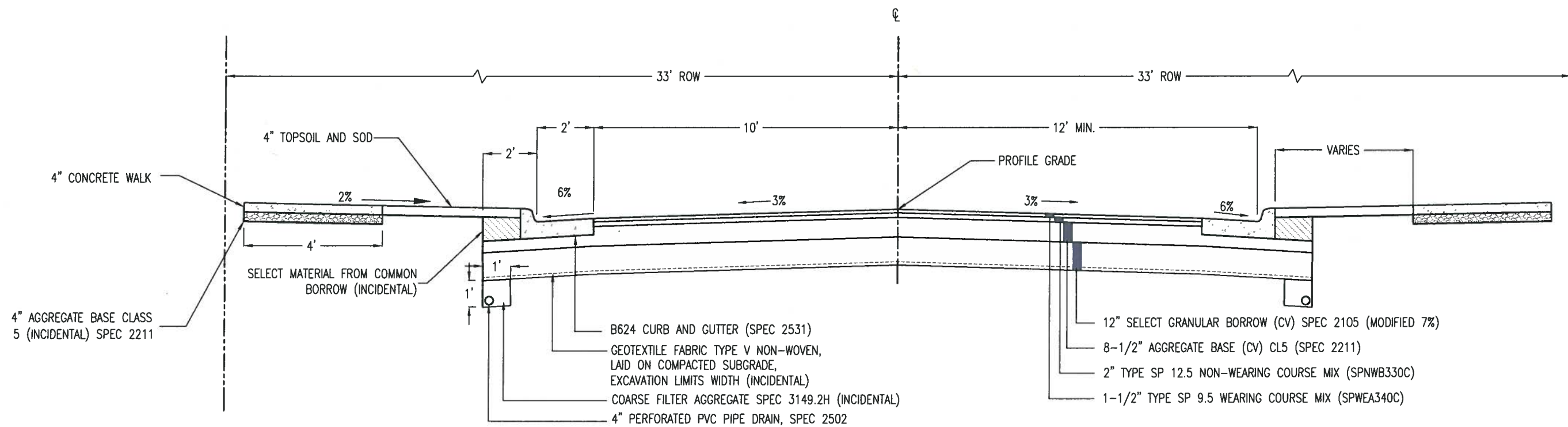
STATEMENT OF ESTIMATED QUANTITIES				
NOTE	SPEC. NO.	DESCRIPTION	UNIT	ESTIMATED QUANTITY
	2021.501	MOBILIZATION	LUMP SUM	1
7	2104.501	REMOVE CURB AND GUTTER	LIN FT	25
1,7	2104.503	REMOVE CONCRETE WALK	SQ FT	300
7	2104.503	REMOVE CONCRETE PAVEMENT	SQ FT	1,700
7	2104.505	REMOVE BITUMINOUS DRIVEWAY PAVEMENT	SQ YD	24
11	2104.513	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	LIN FT	100
11	2104.511	SAWING CONCRETE PAVEMENT (FULL DEPTH)	LIN FT	90
	2105.501	COMMON EXCAVATION	CU YD	587
	2105.522	SELECT GRANULAR BORROW MOD 7% (CV)	CU YD	344
	2105.525	TOPSOIL BORROW (CV)	CU YD	30
10	2130.501	WATER	GAL	1,500
3	2211.503	AGGREGATE BASE (CV) CLASS 5	CU YD	263
	2360.501	TYPE SP 9.5 WEARING COURSE MIX (340,C)	TON	110
	2360.501	TYPE SP 12.5 NON WEARING COURSE MIX (330,C)	TON	140
13	2360.505	TYPE SP 9.5 WEARING COURSE MIXTURE FOR PATCHING	TON	10
2	2502.541	4" PERF PVC PIPE DRAIN	LIN FT	690
8	2504.602	ADJUST VALVE BOX	EACH	3
8	2506.602	ADJUST FRAME & RING CASTING	EACH	8
4	2511.515	GEOTEXTILE FABRIC TYPE V	SQ YD	0
3	2521.501	4" CONCRETE WALK	SQ FT	1,100
3	2521.501	7" CONCRETE WALK	SQ FT	400
	2531.501	CONCRETE CURB & GUTTER DESIGN B624	LIN FT	725
	2531.507	7" CONCRETE DRIVEWAY PAVEMENT	SQ YD	30
	2531.618	TRUNCATED DOMES	SQ FT	32
12	2563.601	TRAFFIC CONTROL	LUMP SUM	1
	2564.515	SIGN SUPPORT	EACH	2
	2564.533	FURNISH SIGN PANEL TYPE C	SQ FT	7
	2564.537	INSTALL SIGN TYPE C	EACH	2
9	2573.531	STORM DRAIN INLET PROTECTION	LUMP SUM	1
	2573.540	FILTER LOG TYPE ROCK LOG	LIN FT	50
	2575.505	SODDING TYPE LAWN	SQ YD	111

NOTES:

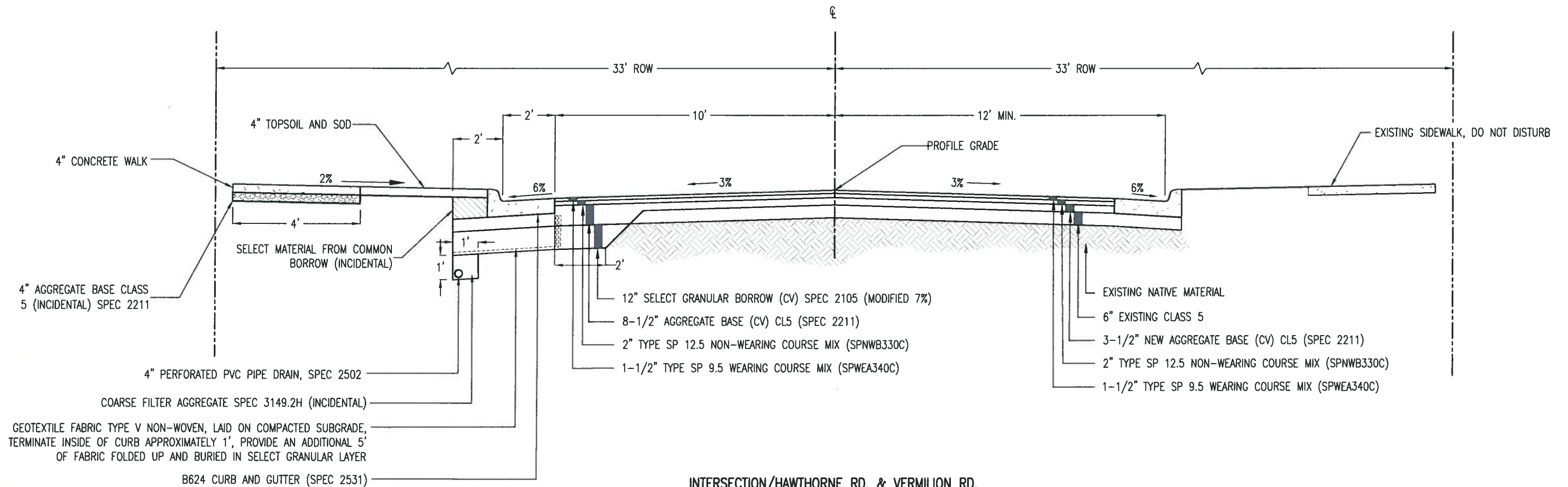
- (1) ITEM (2104.503) "REMOVE CONCRETE WALK" INCLUDES ALL CONCRETE DRIVEWAYS AND APRONS.
- (2) 4" PERF PVC PIPE DRAIN SHALL BE SDR 35. ALL FITTINGS, GEOTEXTILE FABRIC AND FILTER ROCK ARE CONSIDERED INCIDENTAL.
- (3) ITEM (2521.501) " 4" CONCRETE WALK " DOES NOT INCLUDE PEDESTRIAN RAMPS. PEDESTRIAN RAMPS ARE PAID FOR AS " 7" CONC. WALK", AND 6" OF CLASS 5 SHALL BE INCIDENTAL TO THE PEDESTRIAN RAMP ITEM.
- (4) MEASUREMENT FOR GEOTEXTILE FILTER FABRIC, TYPE V AS SHOWN ON TYPICAL IS CALCULATED WITH NO ADDITIONAL AREA GIVEN FOR OVERLAPS, SIDES OF EXCAVATION, OR AROUND DRAIN PIPES.
- (5) STREET SIGNS SHALL BE MAINTAINED FOR THE DURATION OF THE PROJECT UNLESS AUTHORIZED BY THE ENGINEER, ANY DAMAGED SIGN PANELS SHALL BE REPLACED AT NO COST TO THE CITY
- (6) PROTECT ALL TREES IN PLACE. IF ANY TREES ARE DAMAGED, IN THE OPINION OF THE ENGINEER, DUE TO NEGLIGENCE OF THE CONTRACTOR, NO PAYMENT WILL BE MADE FOR THEIR REMOVAL. THE COST OF REPLACEMENT TREES @ \$1000.00 EACH WILL BE DEDUCTED FROM MONIES OWED TO THE CONTRACTOR.
- (7) TO BE USED AS DIRECTED BY THE ENGINEER.
- (8) ANY CASTING OR VALVES BOXES DAMAGES DURING CONSTRUCTION WILL BE REPLACED BY THE CONTRACTOR AT NO COST TO THE CITY
- (9) THE CONTRACTOR SHALL PROVIDE A KNOWLEDGEABLE AND EXPERIENCED PERSON TO OVERSEE THE INSTALLATION AND ONGOING FUNCTION DURING THE PROJECT OF ALL AND ANY EROSION CONTROL ITEMS WITH NO EXTRA COMPENSATION, THIS INCLUDES AND IS NOT LIMITED TO DEWATERING, OFFSITE VEHICLE TRACKING, SEDIMENT MITIGATION AND DUST CONTROL.
- (10) TO BE USED FOR DUST CONTROL AS DIRECTED BY THE ENGINEER.
- (11) WILL BE PAID FOR ONLY ONCE.
- (12) CONTRACTOR SHALL CLOSE VERMILLION RD TO ALL NON-LOCAL TRAFFIC. CONTRACTOR SHALL CLOSE HAWTHORNE RD AT INTERSECTION TO BE RECONSTRUCTED. PROVIDE ADEQUATE WARNING SIGNAGE (EX. CONSTRUCTION AHEAD AND ROAD CLOSED AHEAD) ON ALL FOUR ROADS APPROACHING THE PROJECT SITE. CONTRACTOR SHALL PROVIDE SIGNS ON WALLACE STREET WARNING OF HAWTHORN ROAD CLOSURE IN EACH DIRECTION, IF THE ENGINEER IN THE FIELD FEELS THERE IS A NEED FOR MORE TRAFFIC CONTROL THIS SHALL BE ADDRESSED WITH NO EXTRA COMPENSATION. ALL SETUP OF SIGNAGE WILL CONFORM TO THE LATEST MUTCD STANDARDS.
- (13) THIS ITEM REFERS TO MATERIAL REQUIRED BEHIND THE SIDEWALK TO MATCH THE BITUMINOUS DRIVEWAYS.



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VERMILION RD. TYPICAL SECTION
WITH SIDEWALKS



INTERSECTION/HAWTHORNE RD. & VERMILION RD.
TYPICAL SECTION SOUTH SIDE WITH SIDEWALKS

CERTIFIED BY: HOWARD D. SMITH, P.E.

REG. NO.: 46875

SIGNATURE:

Howard D. Smith, P.E.

DATE: 8-31-12

VERMILION RD. FLOOD RECONSTRUCTION

CITY OF DULUTH

CITY PROJECT NO.: 1117

STATE AID PROJECT NO.: NA

DRAWN BY: KLB/SCA

TYPICAL SECTION

SHEET NO. 3 OF 4

